

## REMARKS

Claims 28-66 remain in this application. Claims 1-27 have been cancelled without prejudice. Claims 28-66 have been added. The new claims are supported by the specification and no new matter has been added. The Applicants respectfully request reconsideration of this application in view of the above amendments and the following remarks. Note that the remarks below discuss the prior rejections in the context of the new claims in order to facilitate an early allowance.

### 35 U.S.C. §102 Rejection – Perry

The Examiner has rejected former claims 1-7, 9, 10, 12, 14-20 and 22 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,483,518 issued to Perry et al. (hereinafter referred to as “Perry”). Applicants respectfully submit that Perry does not anticipate new claim 28.

**Claim 28** recites a data structure comprising, *“appearance data that indicates an appearance for each of a plurality of nodes associated with a portion of a surface of an object; displacement data that indicates a displacement distance for each of the plurality of nodes from a corresponding reference; and local coordinate system data that indicates a local coordinate system for the plurality of nodes.”*. The Applicants respectfully submit that Perry does not anticipate claim 28 for at least the reasons that Perry does not teach or suggest local coordinate system data that indicates a local coordinate system for the plurality of nodes.

As understood by the Applicants, Perry discusses using a single world coordinate system for all cells of a bounding box surrounding an object. As discussed at column 7, line 64, through column 8, line 3: *“FIG. 1 shows a bounding box 100 enclosing a portion of a distance field associated with an object 101. In 2D, the bounding box 100 is located*

*in some world coordinate space defined by an origin 103 and axes 104 and 105. The space enclosed by the bounding box is defined in terms of the coordinates of the world coordinate space. The size and location of the bounding box is specified by its vertices 109". Also, the bounding box may be hierarchically partitioned into cells (see e.g., column 8, lines 22-29).*

Perry discusses that the hierarchical distance fields may be represented by data structures. Figure 4 of Perry shows a hierarchical distance field (HDF) 400 including an HDF header 500 and cell data 600. The HDF header specifies and defines the bounding box presumably in terms of the world coordinates. *"As shown in FIG. 5, the HDF header 500 can include a bounding box specification 510 defining the bounding box 100 of the HDF"* (column 9, lines 50-52). The HDF header includes a pointer 560 to the cell data 600.

Perry does not teach or suggest that the cell data for individual cells of the bounding box may include local coordinate system data that indicates a local coordinate system for the plurality of nodes. FIG. 6 of Perry is a block diagram of the cell data. Applicants have carefully reviewed FIG. 6 and have found absolutely no coordinate system data. As understood by Applicants, Perry discusses using a different approach based on a hierarchical structure to relate the cells to the bounding box. As shown in FIG. 6, the cell data includes pointers to children cells 640 and a pointer to a parent cell 640. The hierarchical structure and the pointers interrelate the cells to one another and to the bounding box.

Applicants submit that such a hierarchical structure may potentially introduce disadvantages, such as complicating parallel processing of the graphical data in different rendering units. As discussed in the patent application, *"According to one embodiment, and in contrast to triangle vertices, a coordinate system may be local to a spatial patch*

*and independent of and unrelated to coordinate systems of other spatial patches. This independence may facilitate parallel processing of the two spatial patches”* (paragraph [0034]). In any event, it is clear that Perry does not teach or suggest the claimed local coordinate system data that indicates a local coordinate system for the plurality of nodes.

Anticipation under 35 U.S.C. Section 102 requires every element of the claimed invention be identically shown in a single prior art reference. The Federal Circuit has indicated that the standard for measuring lack of novelty by anticipation is strict identity. *“For a prior art reference to anticipate in terms of 35 U.S.C. Section 102, every element of the claimed invention must be identically shown in a single reference.”* In *Re Bond*, 910 F.2d 831, 15 USPQ.2d 1566 (Fed. Cir. 1990).

For at least these reasons, **claim 28** is believed to be allowable over Perry. **Claims 29-35** depend from claim 28 and are believed to be allowable therefor, as well as for the recitations independently set forth therein.

**Independent claims 28, 36, 44, 48, 58, and 64** each recites at least *“local coordinate system data”* and are believed to be allowable for reasons similar to those discussed above for claim 28. **Dependent claims 37-43, 45-47, 49-57, 59-63, and 65-66** each depend from one of these independent claims, and are believed to be allowable therefor, as well as for the recitations independently set forth therein.

### **Conclusion**

Applicants respectfully submit that the rejections have been overcome by the amendments and remark, and that the claims as amended are now in condition for allowance. Accordingly, Applicants respectfully request the rejections be withdrawn and the claims as amended be allowed. The Examiner is requested to call Brent E. Vecchia at (303) 740-1980 if there remains any issue with allowance of the case.

### **Request For Telephone Interview**

The Examiner is invited to call Brent E. Vecchia at (303) 740-1980 if there remains any issue with allowance of the case.

### **Request For An Extension Of Time**

The Applicant(s) respectfully petitions for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17 for such an extension.

### **Charge Our Deposit Account**

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,  
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